# RHIC SHUTDOWN SCHEDULE

R. Zaharatos – March 18, 2003

## SHUTDOWN PERIOD: WEDNESDAY MARCH 19, 2003, 0900 TO 1300HRS(MOST SYSTEMS READY FOR BEAM BY 1230HRS)

**AGS – NO ACCESS**

**BOOSTER - NO ACCESS**

**LINAC – NO ACCESS**

**RHIC TUNNEL REMOTE CONTROLLED ACCESS PERIOD - 0915 to 1230 – HP surveys required for beam dump and injection line.**

**RHIC IR's – RESTRICTED ACCESS FOR STAR ONLY(0915-1130HRS)**

**PRIMAY JOBS:**

JOBS STATUS CODE: **C** complete **IP** in-process **RS** reschedule
**CAN** cancelled ***** additions

**AGS RING ACCESS JOBS**

**RS** 1. Main Magnet serial number inventory(M. Hemmer)
**RS** 2. Test Ring exhaust fans(AC Grp)
**RS** 3. Modify North Conjunction Gate for simultaneous release (Acc. Ctrls.)
**RS** 4. Modify North Gate for simultaneous release
**RS** 5 Repair RF Station E10.

**AGS EXTERNAL**

**RS** 1 Replace control card for C-17 turbo(may shut down sector)
brushes for the generator exciter, clean exciter brush rigging insulators.
**RS** 2 Investigate power ref. for cycloconverter(Bannon/Ctrls. Grp.)
**RS** 3 Siemens pedestal #2 south – check intermittent loosing of signal for pressure trending(Bannon)
**RS** 4 Siemens – install preamp. for accelerometers for ped. #2(Bannon)
5 Siemens – replace pedestal #3 snubber
6 Siemens – replace A36D4 relay in LD1 for Exciter

**BOOSTER RING ACCESS JOBS**

**RS** 1. Replace emergency light batteries at plug door
**RS** 2. Check and drain air lines

**BOOSTER EXTERNAL**

**RS** 1 Check Bldg. 914 Pump Hse. spare air compressor unit
**RS** 2 Replace switches on timing decoder board with jumpers.(Ctrls Grp)
**RS** 4 Terminate BPM cables(only if machine is off)
**RS** 5 Quad Reference Magnets(2) – remove measure flows(Bldg. 930A)
**RS** 6 Horizontal Quad P.S. – install modified reg. brd(Bannon)
**RS** 7 Remove Reference Magnet measure flows(Bldg. 930A)
**RS** 8 Repair flow switch for DH1-5 P.S.(Bldg. 930UEB)

**LINAC TUNNEL**

**RS** 1 Check HEBT 5 SEM
**RS** 2 SNS Laser work(Sikora)
**RS** 3 Install cover plate in HEBT
**RS** 4 BLIP Vacuum – perform leak check

**LINAC EXTERNAL**

**RS** 2 Install new 400w RF Ampl. in LL Drive

**NSRL EXTERNAL**

**IP** 1 Bldg. 958 heating – check heaters at outdoor A/C units inside berm fence(unit to be replaced)

**NSRL TUNNEL**

**IP** 1. Complete and test light controls for target area(Access Ctrls.)

**RHIC TUNNEL**

| | | |
|---|---|---|
| | 1 | P.S.'s – repairs(See List) |
| **RS** | 2 | Stoichastic Cooling(sect. 2) – install thermocouple equip.(Gassner) |
| | 3 | Inspect entire tunnel for condition of ice balls.(Zapasek) |
| **C/RS** | 4 | Injection Kickers – Swap out Blue #3 and #4(replaced #3) |
| **RS** | 5 | Roman Pots – Modifications/repairs/testing for administrative controls(sect 1&2) |
| **RS** | 6 | Telephones to be repaired – Alcove 1009C, ext. 5432 and 7GE1 Gate inside, ext. 8044. |
| | 7 | Cryo – Install instrumentation on the helium lead flow piping at magnet 9Q14(access through 10GE1 and 9GI1) |
| | 8 | Install TLD's at selected P.S.'s in all alcoves(Ctrls. Grp.) |

**RHIC REMOTE CONTROLLED ACCESS SCHEDULE**

0845: Begin sign for 1st entry 0915
8GE2 (team 2)
5GE1 (team 1) HP
4GE2 (team 3)
Ice ball hunters and PS TLD personnel.
10GE1 Repair (team 4) HP

0915: 6z1 to restricted begin accesses.

~1000: team 1 exits 5GE1 enters 6GE3 HP.
team 4 exits 10GE1 enters 12 GE1.
next available repair team to 2GE1.

1200: Machine setup.

**Note: As Remote Controlled Access becomes available at approximately 1030hrs BRAHMS Exp. will have access to their IR and P.S. Group to sector 8 for instrumentation set-up.**

**RHIC EXTERNAL**

1 PHOBOS – Maint. on tower fan

**Controls Systems:**

**RS** 1. 1004B – remove SIS Scaler board from 4b-ps4 and install in 4b-ps5. Install V102 time line decoder board in 10a-ps3.
**RS** 2 1010A – Install V102 time line decoder board in 10a-ps3.

## RHIC POWER SUPPLLIES

**The only tasks that will be performed on the next maintenance day are ice ball checks, ice ball repairs, corrector p.s. work, spin rotator ramp rate exploration, and magnet tree cleaning. Everything else on this list will be saved for the next maintenance day.**

### IR Power Supplies

1. Ice Ball Checks. I02Q4 has a fan mounted on it now because the heater is not working. The heater must be fixed or replaced. O10Q2-Q3, check the thermostat is still mounted properly, it was on top of ice it could have fallen off again. 4-DX magnet needs to be checked because ice is forming on top of the flange. O10Q8 has half the heater working. The current measures 0.23A. Replace heater or fix whatever the problem is. Bob Mac, Rich C and Mitch on repairs and cleanings. Others (including Fred Orsatti?) for ice ball checks.
2. Tape down floor fans in the tunnel that cool magnet trees.
3. bo2-qd1-ps shows an AC phase flt when there is a QLI. If there is time take a look at this.
4. In 1010A, if there is time we may want to check more tq power supplies for shorted IGBT's by looking at the AC current during a turn ON. Looked at yo9-tq4, 5, 6. yi10-tq4, 5, 6 and bo10-tq4. Only yo9-tq4-ps was shorted. Tom and Jeff
5. Replace yo9-tq4-ps with a 150A that has good IGBT's and snubbers installed. Tom and Jeff
6. Test good 150 in rack at 1010A and see if we can cause IGBT's to fail? Tom and Jeff
7. Remove new Q6 curr reg card in y12-q6 because relays are sticky. Original card is in 1012A cabinet. Don
8. Adjust gain of new Q7 cards in y12-q7 and b12-q7 to reduce error and find limits. Don &
9. Possibly swap out firing card of y8-dh0-ps. No one.
10. Screw in more 3u chassis cards. 1012A done. Half of 1004B done and some of 1002B done. Rich K &
11. Inspect buildings 1004B, 1006B, 1008B 1012A for broken internal fans on stand alone dynapowers. 1010A and 1002B were checked.
12. Put main p.s. filter material in rear doors of tq racks. Mitch
13. Keep an eye on y12-dh0 (OFF problem) and y6-dh0 (large voltage ripple and spike). Nothing to do as of now.
14. Keep an eye on yo4-qf2-ps. It caused a QLI on Sat 3/15/03 at 1:15. It looks like the voltage spiked up.

## Magnet Work

1. Ceramic Feedthrough cleaning in sector 3 where ground fault was found.
2. Go into sector 9 on restricted access and look at cryo temperature monitoring.

## QPA Work

1. Start replacing all QPA D connector hardware?? (b2-dh0-qp, yo8-qf8-qp and yo8-qd1-qp done) No One.

**Gamma-T Power Supplies**

a. Go into alcoves and tighten AC connections of Gamma-T's in 3C, 7A, 7C, 9A. No One.

## Snake and Spin rotator p.s. Work

1. More p.s. testing to high current. Explore Ramp rates.
2. Label the rest of the circuit breakers. Someone.

## Quench Detector

1. Go around and check quench detector fans are working - Dan O

**Main p.s.'s** – Blue dipole flattop contactor investigation - **FRED ORSATTI**

## Corrector Power Supplies: See Table below Brain and Gene

1. If there is time and people start checking looking for broken corrector fans by checking all alcoves.

| **Action (3/12/03)**<br>**On all of these check AC connections and DC connections at the magnet and power supply.** | **Comments – What was really done- What was found** | ***Serial Number*** |
|---|---|---|
| Tripped to the Off state 3 times 3/16/03. Replace with a p.s. that has new micro and R and C mod. If one is not available then just replace micro in this p.s. | | |
| Tripped OFF on 3/17/03. This p.s. already has a new micro. Replace p.s. with one that has a new R and C and new micro. Check AC connections. Check DC connections. | | |
| Does not show local on pet page when you put into Local. Investigate, possibly needs a new node card cable, try installing one, I think we have them in the trailer, check with Brian. Low priority | | |

## Valve Box Work

1. Need to replace flashers at top of valve boxes for 2b and 6b.
2. Check light control chassis at 10A because no green lights work.
3. Check green light above blue valve box in 1002B.
4. Light control chassis in 1008B needs to be fixed. Opto logic is reversed.

## ATR Power Supplies

1. Run X-ARC90 in voltage mode.
2. Test SWM p.s. setpoint buffer.
3. Tom Nehring may swap circuit breakers 42 and 44, probably won't happen anytime soon..
4. If ground fault comes back on WQ3 p.s. try something else. AFB board was replaced 9:50 Wed 3/5/03.
5. XARC90 and YARC90 phase sequence relay jumpered out. Decide what to do for fix. YARC90 phase sequence relay probably still good because LED lights.
6. Try ramping YARC90 with Costas, do we see spikes?